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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,701	12/07/2001	Gregory B. Tackett	AMPC 5017	2433

7590 08/15/2005

Legal Office
(AMSAM-L-G-I, Mr. Fred M. Bush)
Us Army Aviation and Missile Command
Redstone Arsenal, AL 35898-5000

EXAMINER	
JANKUS, ALMIS R	

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/021,701	TACKETT, GREGORY B.	
	Examiner	Art Unit	
	Almis R. Jankus	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment has been fully considered in preparing this Office Action.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-4, 6, 7, and 9 stand rejected and claims 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Chenney et al.

With respect to claim 1, Chenney et al. teaches the claimed instantiating areas of the environment only when needed, at page 15 with the teaching of, "If we are to place large numbers of complex dynamic models in an environment, then we should compute state only for objects in view, and cull dynamics for objects that are out of view. This is the traditional approach in graphics: compute only what is important to the current view. Knowledge of what to cull is provided in VRML through the VisibilitySensor mechanism. In current implementations this culls to the view volume, but future implementations may include occlusion culling and other advanced techniques. If a world is designed as multiple files which are loaded in memory only as required then it must be possible to cull

dynamics, because the script will not even be present in memory if the subsection of the world it animates is not visible".

The instant specification defines "instantiation" as "the computer generation of something that is then made available to a user", at page 4 lines 14-15. The teaching of Chenney et al. regarding loading files in memory only as required with dynamic models, and computing state only for objects in view, corresponds to instantiation.

The claimed allowing the instantiated areas to lapse when no longer needed corresponds to culling dynamics, which Chenney et al. teaches at page 16 section 1.1.

The claimed incorporating components into the environment utilizing pseudo-random selection from available data files is taught at Chenney et al. at page 17 section 2.3 and at pages 18-19 section 3.3. For long periods out of view, a viewer can no longer use information from a previous sighting to predict a new state, nor are they completely ignorant of the system's behaviour. To exploit this, Chenney et al. sample a new state from some statistical distribution over states. The sample is Independent of any previous state, but the distribution reflects the long term behaviour of the system generally referred to as the stationary distribution. The stationary distribution is the distribution indicating how much time a long running system spends in any region of the state space. To build the distribution, Chenney et al. begin with a large number of paths at random starting points and integrate them for a short period of time to eliminate startup transients. Sampling a new state from a distribution which is built from a large number of paths at random starting points is equivalent to the claimed utilizing pseudo-random selection. Although Chenney et al. teaches random starting points rather than pseudo-random, the term "random" is merely a short-hand convention used in computing, since computers are not able to generate truly random values, but only pseudo-random values.

Claim 2 depends from claim 1 and further requires the step of investing

components with nested fidelity. This corresponds to the teaching of causality at Chenney et al., page 16, in that certain relationships must be maintained if an object is out of view for a time and then comes back into view at a later time.

Claim 3 depends from claim 2 and further requires the step of enabling users and forces to interact with environmental components and other users and forces. Chenney et al. Teaches this at page 24 as interaction of culling with multi-user environments such as the VRML community.

Claim 4 depends from claim 3 and further requires the step of reinstantiating the lapsed areas identical to the area's initial instantiation. Chenney et al. Teaches this at page 16 at section 2.1 and at figure 2. Since viewers can make accurate predictions for short periods out of view, the most accurate model of the system available must be used to ensure consistency when objects come back into view.

Claim 6 depends from claim 1 and further requires the step of enabling users and forces to interact with environmental components and other users and forces. Chenney et al. Teaches this at page 24 as interaction of culling with multi-user environments such as the VRML community.

Claim 7 depends from claim 6 and further requires the step of reinstantiating the lapsed areas identical to the area's initial instantiation. Chenney et al. Teaches this at page 16 at section 2.1 and at figure 2. Since viewers can make accurate predictions for short periods out of view, the most accurate model of the system available must be used to ensure consistency.

Claim 9 depends from claim 1 and further requires the step of reinstantiating the lapsed areas identical to the area's initial instantiation. Chenney et al. Teaches this at page 16 at section 2.1 and at figure 2. Since viewers can make accurate predictions for short periods out of view, the most accurate model of the system available must be

used to ensure consistency.

Claims 5 and 8 further require retaining the impacts of the interaction by enabled users and forces. Chenney et al. teach this at the abstract as ensuring consistency.

4. Applicant's arguments filed 02/25/05 have been fully considered but they are not persuasive.

With respect to claim 1, applicant argues that Chenney et al. fails to teach "[pseudo-random which] is used to control the existence, appearance, interaction, and nature of environmental components such that they give the desired degree of realism and unpredictability/predictability that most closely approximates the conditions desired by the user." However, this describes the consistency problem of Chenney et al. which addresses how the environment should look over certain time gaps which may occur as areas lapse from view.

With respect to claim 2, applicant argues that Chenney et al. fails to teach nested fidelity, or the concept of giving a component a certain level of detail. However, in addition to Chenney et al. teaching this as known in the prior art, at page 15 second column, Chenney et al. further expands on this concept by building approximations to generate new state quickly by using a hierarchy of neural nets. One net evaluates a function over a period of half the sampling threshold; the next function evaluates over half this time; the next over half of that and so on until reaching some minimum time step.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Almis R. Jankus whose telephone number is 571-272-7643. The examiner can normally be reached on M-F, 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJ

ALMIS R. JANKUS
PRIMARY EXAMINER